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Barriers and Facilitators to Bedside Nursing Involvement in Antibiotic Stewardship: Multisite Qualitative Study of Prescribers

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BACKGROUND

- The Centers for Disease Control and Prevention and the American Nurses Association (CDC/ANA) have outlined specific responsibilities for bedside nurses (RNs) in antibiotic stewardship efforts.
- These responsibilities expand traditional nursing roles and scope of practice and are perceived to require prescribers' (e.g., physicians, nurse practitioners, and physician assistants) engagement in order to be implemented effectively[1].
- We explored prescribers' attitudes towards RNs' involvement in antibiotic stewardship as well as barriers and facilitators to the following RN responsibilities specified by the CDC/ANA:
  - RNs facilitate accurate antibiotic allergy histories from patients
  - RNs encourage switching from intravenous (IV) to oral (PO) antibiotics
  - RNs initiate an antibiotic time out with prescribers

METHODS

- Focus groups were conducted among a variety of prescriber groups (attending physicians, nurse practitioners, internal medicine and pediatric residents) between July 2017 and March 2018 at two academic adult and pediatric hospitals in New York City. Convenience sampling was used to recruit participants.
- Focus groups were comprised of members of the same specialty and level of training. A nurse researcher with a background in qualitative methods (E.C.) led the interviews and focus groups.
- A standardized interview guide was used for each focus group.
  - Part 1: Prescribers' perceptions of RNs and antibiotic use
  - Part 2: Prescriber's reactions to specific CDC/ANA recommendations outlined above
- Transcripts were coded using a conventional content analysis in NVivo 11.

RESULTS

- 4 focus groups and 2 interviews with 37 prescribers (10 medicine residents, 10 adult hospitalists, 9 pediatricians, and 8 critical care nurse practitioners) were conducted over the course of the study.

- This research was funded by the APIC Heroes Implementation Research Scholar Award Program 2017-18, which was supported by an educational grant from BD (PI: Carter).

RESULTS

Overarching prescriber attitudes regarding the bedside nurses' role in antibiotic stewardship:

Facilitators

Prescribers recounted positive interactions with nurses in the past and enthusiastically viewed RNs as having the potential to contribute to antibiotic stewardship at the bedside:

- "I actually try to elicit the nurse's opinion [and ask], "Do think this person's been coughing?" … or, "What do you think?" 'Cause I figured that they are someone who's seeing the patient all the time, **and they might see things that I'm not seeing when I'm there just for…a couple of minutes**"
- "If there's a [patient with] Red Man…the nurse may tell parents, 'Don't worry; we see this often, I'll stop the infusion, or decrease and I'll call the doctor,' …there are definite interactions, which **a knowledgeable nurse can be very helpful to panicky parent or to a difficult situation**."
- "I think, generally, from an internist's standpoint, **we like to have nurses who are proactive** in their thinking—"

Barriers

Perception that stewardship is beyond the current scope of nursing practice:

- "**I would not expect a nurse to feel empowered to do [antimicrobial stewardship]**, unless I know we've engaged in some sort of discussion about that piece….I don't know what they know or do not know about that clinical entity."

Lack of regular communication between prescribers and nurses:

- "**I think we don't really discuss with them, unless they're curious about it and they ask**. But it wouldn't be necessarily a voluntary action that we take to go up to the bedside nurse and say, 'I'm planning to continue Zosyn for seven days, so there's gonna be two more days.' That does not really happen, I'd say…for any of us."
- "[I]t's a little hard to—for the various structural reasons that were said earlier, have even a conversation, regardless of whether it's about antibiotics or anything."

Prescriber attitudes regarding CDC/ANA recommendation that nurses play a major role in antibiotic stewardship by obtaining and recording an accurate penicillin drug allergy history

Facilitators

Nursing allergy assessment potentially leads to more reliable history-taking:

- "I think what happens is sometimes the patient…**might have an altered mental status or might be distressed** and might not really be able to provide a good history. And then, by the time they get to the unit and it's time for the nurse—they might be improved…**It might be another opportunity to try to get a little bit more information.**"

Systematic nursing allergy evaluation could decrease allergy propagation through the electronic medical record

- [F]ollow up questions beyond just like—what—they say a rash, and you clarify what type of rash. And then **maybe have a discussion with the medical team of whether we want to classify it as an allergy before…labeling it as an allergy in the chart**, would be ideal.
- It could be an opportunity if somebody says, 'Oh, I see you have an allergy to penicillin, can you tell me about that?' Uh, and it turns out, 'Oh, I don't know why they put that down, there's this one time, it was questionable.' And so **I think that the way nurses ask every single admission is something that's helpful.**

Barriers

Understanding that RNs are not exclusively responsible for antibiotic allergy histories

- **"I think that new patient family interview that would require a decision about that to be made would likely fall on [prescribers]."**
- **"We [prescribers] should ask when we're taking our histories to clarify [allergies]."**

Prescriber attitudes regarding CDC/ANA recommendation that nurses encourage the switch from IV to PO antibiotics

Facilitators

Provides an opportunity for prescribers to reconsider their antibiotic orders:

- "[A] viewpoint that the nurse will bring in, say, the patient seems to be eating and drinking well, maybe they lost their IV…could we potentially, instead of replacing the IV, give the antibiotic by mouth? That'd be an example of like a contribution on rounds that I see.
- I think that's a great recommendation. I mean **I think what happens practically is like the nurse calls you and is like, 'The IV blew. What do you want me to do?'"**
- "They're not trying to say there's a better oral or that I'm doing something wrong…**they're just making me stop, think, 'Yeah, they probably don't.** Let's switch 'em.'"

Barriers

Perception that this is beyond nursing scope of practice:

- "I don't…usually think nursing [is] the first person that I think to engage in that dialogue…**I view that more as…an MD kind of decision…"**

Gaps in prescribers' knowledge regarding IV to PO conversion:

- **"[I]f the providers have the knowledge gap to start with**, a nurse telling you, 'You can do this,' is probably not gonna help."

Redundancy with other disciplines' responsibilities:

- **"[O]ur PharmD comes into play helping with that."**

Prescriber attitudes regarding CDC/ANA recommendation that nurses initiate an antibiotic time out with prescribers

Facilitators

Provides a regular opportunity for prescribers to consider their antibiotic usage:

- "We try to, you know, say, 'What are we treating? What're the cultures?' as part of rounds, but **I certainly think more triggers to say maybe we should tailor our antibiotics, I think that would be fun**."
- "I think it's a good check. It reminds me actually of … patient restraints, you know, it's not necessarily a question of whether the patient needs restraints. But it's like the order falls off and the nurses often remind the providers, 'Hey, your 24 hours—or Foley's, like you know, it's gonna expire soon, you have to reorder that.' And I think that cues the team in case they for—whatever reason, hopefully they are not forgetting that patient is on restraints or forgetting that people's on antibiotics. **It's a good prompt them to reevaluate everything they're doing."**

Barriers

Perception implementation into nursing workflow may be difficult:

- "And it should be something that's easy for nurses to use too…if on top of everything else she's doing, she has to also check if it's…48 hours, but she needs to dig or look when the antibiotics was started, then **it becomes cumbersome and it will probably get a pushback from nurses too**…"

Systematic concerns regarding nursing and prescriber workflow:

- "And, usually, a time out is when the team is already together and working together. And when you say, 'Time out: Let's all stop and discuss this,' but **when are we all together discussing that? – That's the problem."**
- [T]hey're going to want to do a time out, and **then maybe they can't get ahold of a provider, and then the antibiotic is either not given or like given many hours later…**

CONCLUSIONS

- Overall, prescribers were eager to have nursing engagement in antibiotic stewardship activities. Prescribers reflected on prior positive experiences with empowered/experienced nurses and were enthusiastic about further engaging with nurses who understood principles of antibiotic stewardship, rather than rote following of protocol.
- Stewardship interventions need to be tailored to the needs and resources of a particular unit/specialty. For instance, the recommendation regarding the IV to PO switch was not felt to be a need in the Medical ICU (where a critical care pharmacist rounds with the team). Conversely, this intervention was well-received on a pediatric ward.
- Some barriers to CDC/ANA recommendations can likely be overcome with increased education (e.g., encouraging the switch from IV to PO), while others may require re-working of systems (e.g., changing rounds to accommodate a nursing initiated antibiotic timeout).
- Ongoing interdisciplinary conversations between nursing and prescribers are needed for effective implementation of bedside nurses into antibiotic stewardship activities.